



Materials Engineering Branch

TIP*



No. 111 Plasticizer Contamination Addenda

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TIP 005, which was issued In 1977, pointed out the nature of a contamination problem from a very common plasticizer, di-(2 ethyl hexyl) phthalate (DEHP). At that time, the existence of this contaminant had already been known for at least ten years. (The reader is encouraged to review TIP 005) In addition to the sources of the DEHP mentioned in that TIP, it is also commonly found in air, water, HEPA filters and virtually all vacuum chambers in which space hardware is tested.

Because of its pervasive character, DEHP cannot be completely eliminated from space hardware. The best that can be expected is to keep the DEHP background at a minimum by being alert to the primary sources from which it stems. If the level of DEHP rises, then the responsible technical personnel must take appropriate action to identify and eliminate its primary source. High levels of DEHP contamination are likely to occur from time to time, even with the knowledge of its potential for occurring.

The single most common source of DEHP is plasticized vinyl materials, including vinyl tubing (such as Tygon), vinyl gloves, vinyl wire insulation, vinyl plastic sheeting, etc., that contain about third of their weight in plasticizer. Other possible sources include vacuum pump oil (Octoil), sticky mats used near clean rooms, aerosol products, and clean room booties.